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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,738	06/26/2003	Koichiro Narimatsu	57454-947	4863
7590 10/15/2004			EXAMINER	
McDermott, Will & Emery 600 13th Street, N.W. Washington, DC 20005-3096			PHAM, LONG	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,738

Applicant(s)

NARIMATSU, KOICHIRO

Examiner

Long Pham

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/26/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Labeled drawing sheet.

DETAILED ACTION

General Information

Paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

The labeled drawing sheet(s) of the present invention are attached to show examiner's understanding of the disclosed and claimed inventions.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-10 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Narimatsu et al. (US 5,892,291).

With respect to claim 1, Narimatsu et al. teach a semiconductor device, comprising (figures 1-53 and associated text):

an auxiliary mark;

said mark including:

an inner mark 200 forming four sides of a first virtual rectangle on a semiconductor substrate when viewed two-dimensionally, and

an outer mark 100 forming four sides of a second virtual rectangle analogous to the first virtual rectangle and having the same intersection point of diagonals as the first virtual rectangle when viewed two-dimensionally, said inner mark and outer mark being formed to have stepped portions, which stepped portions belong to one same layer 4 and inherently can be detected by a registration accuracy measurement device.

With respect to claim 2, Narimatsu et al. further teach that the outer mark having the stepped portions is formed as a line pattern. See fig. 1.

With respect to claim 3, Narimatsu et al. further teach that the inner mark having the stepped portions is formed as a box or hole pattern. See fig. 1.

With respect to claim 4, Narimatsu et al. further teach that the outer mark having the stepped portions is formed as positive pattern. See figure 1 and associated text.

With respect to claim 5, Narimatsu et al. further teach that the inner mark having the stepped portions is formed as a negative pattern. See figure 1 and associated text.

With respect to claim 6, Narimatsu et al. further teach that the auxiliary marks includes a plurality of the auxiliary marks dispersed across an entire exposure region on the substrate. See the Summary of the Invention.

With respect to claim 7, Narimatsu et al. further teach that the inner mark includes a plurality of the inner marks having the stepped portions and formed as patterns having different sizes. See figs. 22, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41-43, and 44-53.

With respect to claim 8, Narimatsu et al. further teach that the outer mark includes a plurality of the outer marks having the stepped portions and formed as patterns having different sizes. See figs. 22, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41-43, and 44-53.

With respect to claims 9 and 10, Narimatsu et al. further teach that a plurality of the inner marks having the stepped portions are formed to include a box pattern, a line pattern, and a hole pattern and a plurality of the outer marks having the stepped portions are formed to include a box pattern, a line pattern, and a hole pattern. See figs. 22, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41-43, and 44-53.

With respect to claim 11, Narimatsu et al. teach a semiconductor device, comprising (figures 1-53 and associated text):

an opening corresponding to a pattern of an auxiliary mark, said auxiliary mark including:

an inner mark 200 forming four sides of a first virtual rectangle when viewed two-dimensionally, and

an outer mark 100 forming four sides of a second virtual rectangle analogous to the first virtual rectangle and having the same intersection point of diagonals as the first virtual rectangle when viewed two-dimensionally, said inner mark and outer mark being formed to have steps, which stepped portions belong to one same layer 4 and inherently can be detected by a registration accuracy measurement device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on M-F, 7:30AM-3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2814

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Long Pham

Primary Examiner

Art Unit 2814

LP